

What is claimed is:

1. A capacitive touch sensor comprising:
an electrically continuous optically transparent conductive film covering a touch
5 sensitive area;
an optically transparent self-supporting flexible glass layer disposed on the
conductive film; and
an electrical circuitry configured to detect a signal induced by capacitive
coupling between the conductive film and a touch input applied to the flexible glass
10 layer, the signal being used to determine the touch location.
2. The capacitive touch sensor of claim 1, further comprising an optically
transparent bonding layer for bonding the flexible glass layer to the conductive film.
- 15 3. The capacitive touch sensor of claim 2, wherein the bonding layer is an
adhesive.
4. The capacitive touch sensor of claim 2 further comprising a barrier layer
disposed between the bonding layer and the conductive film.
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5. The capacitive touch sensor of claim 2, wherein the bonding layer is UV
curable.
6. The capacitive touch sensor of claim 5, wherein the bonding layer comprises a
25 UV absorber.
7. The capacitive touch sensor of claim 1, further comprising a field linearization
pattern disposed along the perimeter of the touch sensitive area.

8. The capacitive touch sensor of claim 7, wherein the flexible glass layer covers at least a portion of the linearization pattern.
9. The capacitive touch sensor of claim 1, wherein the conductive film is disposed
5 on an optically transparent substrate.
10. The capacitive touch sensor of claim 1, wherein the flexible glass layer covers at least a portion of the electrical circuitry.
- 10 11. The capacitive touch sensor of claim 1, further comprising electronics adapted to receive the detected signal to determine the touch location.
12. The capacitive touch sensor of claim 1, wherein the sheet resistance of the conductive film is in the range of 100 to 50,000 Ohms/Square.
- 15 13. The capacitive touch sensor of claim 1, wherein the sheet resistance of the conductive film is in the range of 200 to 10,000 Ohms/Square.
14. The capacitive touch sensor of claim 1, wherein the sheet resistance of the
20 conductive film is in the range of 500 to 4,000 Ohms/Square
15. The capacitive touch sensor of claim 1, wherein the thickness of the flexible glass layer is in the range of 0.1 to 1.5 mm.
- 25 16. The capacitive touch sensor of claim 1, wherein the thickness of the flexible glass layer is in the range of 0.3 to 1.5 mm.
17. The capacitive touch sensor of claim 1, wherein the thickness of the flexible glass layer is in the range of 0.5 to 1.0 mm.
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18. The capacitive touch sensor of claim 1, wherein the flexible glass layer comprises a soda lime glass.
19. The capacitive touch sensor of claim 1, wherein the flexible glass layer
5 comprises a borosilicate glass.
20. The capacitive touch sensor of claim 1, wherein the transparent conductive film comprises a metal.
- 10 21. The capacitive touch sensor of claim 1, wherein the transparent conductive film comprises a metal oxide.
22. The capacitive touch sensor of claim 21, wherein the metal oxide comprises Indium Tin Oxide (ITO).
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23. The capacitive touch sensor of claim 21, wherein the metal oxide comprises Tin Antimony Oxide (TAO).
24. The capacitive touch sensor of claim 21, wherein the metal oxide comprises
20 fluorine doped tin oxide.
25. The capacitive touch sensor of claim 1, wherein the transparent conductive film comprises an organic conductor.
- 25 26. The capacitive touch sensor of claim 25, wherein the organic conductor comprises a conductive polymer.
27. The capacitive touch sensor of claim 1 being combined with a display viewable
30 through the touch sensor.

28. The capacitive touch sensor of claim 1 further comprising a touch implement coupled to the touch sensor.
29. The capacitive touch sensor of claim 28, wherein the touch implement is
5 electrically coupled to the touch sensor.
30. The capacitive touch sensor of claim 28, wherein the touch implement is coupled to the touch sensor via electrically conductive wires.
- 10 31. The capacitive touch sensor of claim 28, wherein the touch implement is a stylus.
32. A signature capture device comprising the capacitive touch sensor of claim 1.
- 15 33. A capacitive touch sensor comprising:
an electrically continuous optically transparent conductive film disposed between and optically coupled to an optically transparent self-supporting flexible glass film and an optically transparent substrate; and
electronics configured to determine location of a touch input applied to the
20 flexible glass layer by detecting a signal induced by capacitive coupling between the conductive film and the touch input.
34. The capacitive touch sensor according to claim 33, wherein the conductive film is in contact with the flexible glass.
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35. The capacitive touch sensor according to claim 33, wherein the conductive film is in contact with the substrate.
36. The capacitive touch sensor according to claim 33, wherein an optically
30 transparent bonding layer optically couples the conductive film to the flexible glass.

37. The capacitive touch sensor according to claim 33, wherein an optically transparent bonding layer optically couples the conductive film to the substrate.
- 5 38. The capacitive touch sensor according to claims 36 or 37, wherein the bonding layer is an adhesive.
39. The capacitive touch sensor according to claim 33, further comprising a controller to receive the detected signal to determine the touch location.
- 10 40. A capacitive touch sensor comprising:
an electrically continuous optically transparent conductive film covering a touch sensitive area, the touch sensor being capable of detecting two or more distinct touch locations within the touch sensitive area;
15 an optically transparent glass layer disposed on the conductive film, the glass layer having a thickness in the range of 0.1 to 2.0 mm; and
a controller configured to detect a signal induced by capacitive coupling between the conductive film and a touch input applied to the glass layer, the signal being detected at a plurality of positions on the conductive film and used to determine
20 the location of the applied touch input.
41. The capacitive touch sensor according to claim 40, wherein the optically transparent glass layer is flexible.
- 25 42. The capacitive touch sensor according to claim 40, wherein the glass layer has a thickness in the range of 0.3 to 1.5 mm.
43. A method of determining location of a touch input to a touch sensor comprising the steps of:

capacitively coupling the touch input to an electrically continuous optically transparent conductive film covering a touch sensitive area of the touch sensor, the capacitive coupling occurring through an optically transparent self-supporting flexible glass layer disposed over the conductive film;

- 5 detecting a signal induced by the capacitive coupling; and
 using the detected signal to determine the touch location.

44. A method of determining a touch location comprising the steps of:
 defining a touch sensitive area comprising an optically transparent self-
10 supporting glass layer disposed on an electrically continuous optically transparent
 conductive film;
 detecting a signal generated in response to a capacitive coupling between the
 conductive film and a touch input applied to the glass layer; and
 using the detected signal to determine the touch location.

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45. A touch display comprising:
 a display substrate;
 an optically transparent self-supporting flexible glass layer disposed on the
 display substrate and covering a touch sensitive area; and
20 an active display component and an electrically continuous optically transparent
 conductive film disposed between the display substrate and the flexible glass layer and
 covering the touch sensitive area, wherein a location of a touch input applied to the
 flexible glass layer in the touch sensitive area is determined by detecting a signal
 induced by capacitive coupling between the conductive film and the touch input.

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